

Remarks/Arguments:

Claims 1-4 have been amended. No new matter is introduced herein. Claims 1-24 are pending.

The specification has been objected to as failing to provide proper antecedent basis for the claimed subject matter. In particular, the phrases "at least in part" and "based in part," as recited in claims 1-4 are objected to. Claims 1-4 have been amended to remove the phrases "at least in part" and "based in part." Accordingly, applicant respectfully requests that the objection to the specification be withdrawn.

Claims 1-24 have been rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In particular, it is asserted that "Applicant has not pointed out where the new recitations are supported, nor does their appear to be a written description of the claim limitations in the application as filed." Applicant respectfully notes that, in Applicant's response dated January 15, 2009, applicant amended claims 1-4 and also included support for the amendments. In particular, applicant notes that support for the amendments filed January 15, 2009, include page 6, line 20 - page 8, line 25 and Figs. 1-3 of the subject specification. Applicant has further amended claims 1-4 to clarify the language, which is described further below. Accordingly, applicant respectfully requests that the rejection of claims 1-24 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Claims 1-24 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, it is asserted that the phrases "at least in part by" and "based in part on," as recited in claims 1-4 are unclear. Claims 1-4 have been amended to remove the phrases "at least in part" and "in part." Claims 1-4 have also been amended to clarify the language, as discussed further below. Accordingly, applicant respectfully requests that the rejection of claims 1-24 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Claims 1-24 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsuji et al. (U.S. 2004/0056776) in view of Hisada et al. (U.S. 6,043,752). It is respectfully submitted, however, that these claims are patentable over the cited art for the reasons set forth below.

Claim 1, as amended, includes features neither disclosed nor suggested by the cited art, namely:

... an immobilizer unit including ... a first data processor ... a first storage ... a second storage ...

... a portable unit including ... a second data processor ... a third storage ... a fourth storage ...

... the first data processor and the second data processor authenticate each other by: (1) the first data processor transmitting ... an encrypted data based on the first data for mutual authentication stored in the first storage and (2) the second data processor receiving the encrypted data ... decrypting the encrypted data and comparing the decrypted data to the first data for mutual authentication stored in the third storage; and

... responsive to the authentication between the first data processor and the second data processor, the second data processor transmits the second data for mutual authentication stored in the fourth storage ...

... the first data processor further stores, into the second storage, the second data for mutual authentication received via the first antenna and transmits the second data for mutual authentication stored in the second storage via the first antenna ...

... the second data processor further stores, into the third storage, the second data for mutual authentication received via the second antenna. (Emphasis Added)

Although not identical to claim 1, claims 2-4 include similar recitations. Support for the amendments to claims 1-4 can be found, for example, at page 6, line 15 - page 7, line 2; page 8, lines 9-25; page 10, line 25 - page 11, line 2; and Figs. 2 and 10-12 of the subject specification.

Applicant's claims 1-4 relate to: 1) an immobilizer unit including a (first) data processor and multiple storage and 2) a portable unit including a (second) data processor and at least one storage. As shown in applicant's Figs. 2 and 10-12, a mutual authentication between the first and second data processors (of the respective immobilizer unit and portable unit) includes: 1) passing and comparing first data stored in storage of each of the immobilizer unit and portable unit and 2) passing

second data stored (or generated) in one of the units to the other unit. As described on page 8, lines 23-25 and page 10, line 25 page 11, line 2 of the subject specification, the second data is used to set the portable device to the immobilizer unit.

Tsuji et al. disclose, in Fig. 1, a remote control system including transmitter 1 and receiver 2. Transmitter 1 includes microprocessor 11 which enciphers a rolling code and uses the enciphered rolling code to produce a transmission code. (Paragraphs [0037-0041] and [0053]). Receiver 2 receives the transmission code from transmitter 1 and deciphers the enciphered rolling code [0042-0044].

Tsuji et al. also disclose, in Fig. 10, an electronic key system including portable unit 30, vehicle transmitter 33 and wireless receiver 34. Portable unit 30 includes a transmitting/receiving circuit for receiving a challenge code signal (from transmitter 33) and transmitting an enciphered challenge code signal (to wireless receiver 34). Portable unit 30 includes a RAM for storing an ID code of portable unit and an enciphering table (Fig. 11). (Paragraphs [0083-0085]).

Tsuji et al., however, do not disclose or suggest: 1) an immobilizer unit including a first storage for preliminary storing first data for mutual authentication and a second storage and 2) a portable unit including a third storage and a fourth storage, as required by claim 1. On pages 5-6 of the Office Action, the Examiner asserts that Tsuji et al. discloses first and second storage (for vehicle 32) and third and fourth storage (for portable unit 30), based on the enciphering table shown in Fig. 11. Applicant respectfully disagrees. Neither Fig. 10 nor Fig. 11 show multiple storage for each of vehicle 32 and portable unit 30. Instead, Fig. 11 of Tsuji et al. relates to an enciphering table that is stored in a RAM of portable device unit 30. Tsuji et al. are silent regarding an immobilizer unit and a portable unit each including multiple storage, as required by claim 1.

In addition, Tsuji et al. do not disclose or suggest a mutual authentication between first and second data processors (of the respective immobilizer unit and the portable unit) which includes: 1) passing and comparing first data stored in each of the immobilizer unit (first storage) and the portable unit (third storage) and 2) passing second data (initially stored in a fourth storage of the portable unit) between

the immobilizer unit (second storage) and the portable unit (third storage), as required by claim 1. Although Tsuji et al. teach a portable unit which receives a challenge code and transmits and enciphered challenge code, Tsuji et al. do not teach passing second data between an immobilizer unit and a portable unit as part of a mutual authentication. Furthermore, as acknowledged by the Examiner on page 6 of the Office Action, Tsuji et al. do not disclose that the data transmitted from the first processor is encrypted, as required by claim 1. Thus, Tsuji et. al do not include all of the features of claim 1.

Hisada et al. disclose, in Fig. 1, a vehicle security system including vehicle control unit 30 and remote-control unit 11. Vehicle control unit 30 produces a cryptographic code and remote-control unit 11 produces a cipher system code in response to the cryptographic code. (Col. 7, line 47 - Col. 8, line 5 and Col. 16, lines 48-55).

Hisada et al., however, do not disclose or suggest that vehicle control unit 30 and remote-control unit 11 each include multiple storage, as required by claim 1. In addition, Hisada et al. do not disclose or suggest a mutual authentication process between a first data processor and a second data processor which includes: 1) passing and comparing first data stored in each of the immobilizer unit and the portable unit and 2) passing second data between the immobilizer unit and the portable unit, as required by claim 1. Hisada et al. are silent regarding these features. Thus, Hisada et al. cannot provide the features of claim 1 which are missing from Tsuji et al. Accordingly, allowance of claim 1 is respectfully requested.

Although not identical to claim 1, claims 2-4 include features similar to claim 1 which are neither disclosed nor suggested by the cited art. Accordingly, allowance of claims 2-4 is respectfully requested for at least the same reasons as claim 1.

Claims 5-24 include all of the features of respective claims 1-4 from which they depend and are patentable over the cited art for at least the same reasons as respective claims 1-4.

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In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,



Jacques L. Etkowicz, Reg. No. 41,738
Attorney for Applicant

DMG/sh

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P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

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